

# FLAMINAL® IN THE MANAGEMENT OF A NEUROPATHIC DIABETIC FOOT ULCER

Wendy Walker, Diabetes Specialist Podiatrist, Diabetes Team  
Brierley Hill Health and Social Care Centre, Venture Way, Brierley Hill

## Introduction

The International Diabetes Federation<sup>1</sup> suggests that 425 million adults globally have diabetes mellitus (DM), which equates to one in eleven adults. Patients with DM are prone to multiple complications such as diabetic foot ulcer (DFU), which is the most common complication, with 15% of patients with diabetes estimated to suffer from DFU during their lifetime<sup>2</sup>. DFUs are a growing health problem and the leading cause of infection, amputation and hospitalisation in patients with DM. Importantly, DFUs are known to pose a heavy burden both to the patient and their relatives, as well as the health care system, whilst also having a significant impact on quality of life.<sup>3</sup>

This case study describes the management of John; a 54 year old male who works long hours as a company representative, which includes a significant amount of driving. John has diabetes with an associated peripheral neuropathy, and a history of foot ulceration and recurrent infections since 2010, necessitating bespoke footwear and off-loading insoles. Diabetic sensory neuropathy creates an environment in which repetitive trauma, injury and infection are often unrecognised by the patient. John developed an infected DFU on his right 5<sup>th</sup> metatarsal which required amputation, incision and drainage. He was referred to the MDT foot clinic for assessment.

## Method

On examination by the MDT John had a heavily exuding amputation site wound measuring 78mm x 70mm containing 70% slough and 30% granulation tissue, but with no other signs of infection. The teams aims were to debride the wound, lower the wound bioburden, whilst controlling the exudate and ultimately healing the wound.

Flaminal® Forte (Flen Health), an Enzyme Alginogel® with a higher proportion of alginate than its Hydro sister, was selected due to the level of exudate. It was important that the wound bioburden was reduced and the exudate controlled; a thin super absorbent secondary dressing was utilised. Initially John's dressing was renewed twice weekly at his local GP practice with a weekly review in the foot clinic. He also required off-loading footwear and optimised management of blood glucose.

## Results

After two weeks the frequency of dressing change was reduced to twice weekly, with a monthly review in the foot clinic as his wound had improved significantly. John took over management of his own wound (due to his busy working schedule), with appointments at the surgery as required, but with a monthly review in the foot clinic. Within six months his wound had healed without any episodes of infection.

Day 1



2 months



6 months



## Discussion

Foot ulcers are the most prevalent problem for patients with DM, with a yearly incidence of around 2-4% in developed countries.<sup>4</sup> Only two thirds of foot ulcers will eventually heal<sup>5</sup> and up to 28% may result in some form of lower extremity amputation.<sup>6</sup> Infection is an ever present and major threat to DFUs and its prevention was an important factor in John's management plan.

Flaminal® with its alginate polymers and enzymes (glucose oxidase and lactoperoxidase), has a proven broad-spectrum antibacterial activity<sup>7</sup> thereby helping to control bioburden whilst absorbing exudate. The emphasis in wound care for DFUs is repeated debridement, frequent inspection and bacterial control and careful moisture balance to prevent maceration;<sup>8</sup> Flaminal® enabled this to happen without the need for oral antibiotics.

## Conclusion

The triple mode of action of Flaminal® negates the need for multiple products since it absorbs exudate whilst remaining in a gelled state, promotes debridement and controls bioburden all important factors in the management of a DFU. John found the dressing regimen comfortable and was relieved that he was able to manage the dressings himself enabling him to continue working.

### References

1. International Diabetes Federation, 2017 Diabetes Atlas (eighth edn.)
2. Leone S, Pascale R, Vitale M et al (2012) Epidemiology of diabetic foot. *Infez Med* 20 Suppl1: 8-13
3. Frog FR, Peach G, Price P et al (2012) Measures of health-related quality of life in diabetes-related foot disease: a systematic review. *Diabetologia* 55: 552-65
4. Bakker K, Apleqvist J, Lipsky BA et al (2016) The 2015 IWGDF guidance documents on prevention and management of foot problems in diabetes: development of an evidence-based global consensus. *Diabetes Metab Res Rev* 32 (Suppl 1): 2-6
5. Prompers L, Schaper N, Apelqvist J et al (2008) Prediction of outcome in individuals with diabetic foot ulcers: focus on the differences between individuals with and without peripheral arterial disease. *The EURODIALE study. Diabetologia* 51 (5): 747-755
6. Armstrong DG, Boulton AJM, Bus SA (2017) Diabetic foot ulcers and their recurrence. *N Engl J Med*, 376: 2637-75
7. De Smet K, Van den Plas D, Lens D, Sollie P (2009) Pre-clinical evaluation of a new antimicrobial enzyme for the control of wound bioburden. *Wounds* 21 (3): 65-73
8. International Best Practice Guidelines: Wound Management in Diabetic Foot Ulcers. Wounds International, 2013. Available from: [www.woundsinternational.com](http://www.woundsinternational.com)